

THERE IS CLAIMED:

1. A method of acquisition of satellite data by a mobile device including an RNSS satellite radio navigation receiver, said method including the following steps:
 - said receiver receiving a signal transmitted by a plurality of satellites and corresponding to a sum of signals each transmitted by a satellite and each modulated by a spread spectrum signal characteristic of said satellite,
 - said receiver generating a plurality of local duplicates each of which is the duplicate of a spread spectrum signal characteristic of a satellite,
 - correcting the frequency of each of said local duplicates by compensating the Doppler effect of each of said satellites using assistance data sent by an assistance server to said mobile device,
 - summing said plurality of corrected duplicates, and
 - determining the correlation function as a function of time between the sum of said plurality of corrected duplicates and said satellite data signal.
2. A method according to claim 1, including identifying each of the satellites associated with each of the correlation peaks revealed by said correlation function.
3. A method according to claim 2, wherein the identification of at least one satellite includes the following steps:
 - identifying the synchronization time associated with a correlation peak,
 - determining a plurality of correlations calculated for said synchronization time between each of said corrected duplicates and said satellite data signal, and
 - identifying the satellite associated with said correlation peak as a function of said correlations.
4. A method according to claim 3, wherein said peak is a main peak of said correlation function as a function of time.
5. A method according to either claim 3 or claim 4, wherein, after at least one satellite has been identified, each of the remaining satellites is identified, using assistance data sent to said mobile device from an assistance server, said assistance data including the ephemerides of

said satellites and the identifier of the cell in which said mobile device is located, by determining the propagation time difference of a signal between said satellites already identified and said mobile terminal, on the one hand, and each of the satellites to be identified and said mobile device, on the other hand.

6. A method according to claim 2, wherein each of said satellites is identified by the following steps:

- identifying the synchronization time associated with a correlation peak,

- determining a plurality of correlations calculated for said synchronization time between each of said corrected duplicates and said satellite data signal, and

- identifying the satellite associated with said correlation peak as a function of said correlations.

7. A method according to any one of the preceding claims, wherein said correlation function as a function of time is determined by the following steps:

- determining the Fourier transform of each of said corrected duplicates,

- summing said Fourier transforms of each of said corrected duplicates,

- determining the Fourier transform of said satellite data signal,

- multiplying each sum of said Fourier transforms by the Fourier transform of said satellite data signal, and

- determining the inverse Fourier transform of the product obtained by the preceding step.

8. An RNSS satellite navigation receiver for implementing the method according to any one of the preceding claims, said receiver being adapted to receive a signal transmitted by a plurality of satellites and corresponding to a sum of signals each transmitted by a satellite and each modulated by a spread spectrum signal characteristic of said satellite, and said receiver including

- means for generating a plurality of local duplicates each of which is the duplicate of a spread spectrum signal characteristic of a satellite,

- means for correcting the frequency of each of said local duplicates by compensating the Doppler effect of each of said satellites

using assistance data sent by an assistance server to said receiver,
- an adder adapted to sum said corrected duplicates, and
- means for calculating the correlation function as a function of time
between each sum of said corrected duplicates and said satellite data
signal.

9. A mobile device incorporating an RNSS satellite navigation receiver
according to claim 8.